Asian Clam Field Methods- Water Chemistry Boat

1. Navigate to first sample station using GPS with pre-loaded sample locations

2. Anchor boat

3. Sound bottom with hand-held sounder or other sonar, record depth on field data sheet

4. Calibrate data sonde/multi-probe (in field before monitoring, or before leaving laboratory, per manufacturer instructions)

5. Using data sonde/multi-probe, record the following parameters at 0.1m, 0.5m and then at every 0.5m interval along water column to just above the bottom, logging to data storage device and also recording results on field data sheet:
    a. Temperature (°C)
    b. Dissolved oxygen (mg/L)
    c. pH
    d. Turbidity
    e. Conductivity
    f. Chloride (if available on multi-probe)
    g. Chlorophyll-a (if available on multi-probe)

6. Using a Kemmerer bottle, collect a water sample at mid water column (based on depth at station).
    i. If no chloride probe on multi-probe, fill one sample container for chloride analysis at DES laboratory (label bottle with waterbody name, date, time, depth and sample location)
    ii. Fill one sample container for calcium analysis at US EPA laboratory (label bottle with waterbody name, date, time, depth and sample location)
    iii. Store samples on ice in cooler for transport to laboratory for analysis

7. Using a Secchi disk attached to a calibrated chain, measure lake clarity per standard method, record on data sheet

8. When data collection complete navigate to next sample location and repeat steps 2-7 above.

Analysis	Minimum # of Sampling Dates	Field Duplicates or Replicates	Field and Bottle Blanks	Minimum # of Samples to Lab (or Total Readings Taken)
Depth Temperature Dissolved oxygen pH Turbidity Conductivity Chlorophyll (only if	1	1 replicate profile per waterbody	NA	Measured in field (profiles)

available on probe)				
Secchi Disk	1	2 replicates / sample site	NA	Measured in field
Chloride	1	1 duplicate / trip (5 sites, aka trips)	1 / trip (5 sites, aka trips)	52+5 dupes+5 blanks=62
Calcium	1	1 duplicate / trip (5 sites, aka trips)	1 / trip (5 sites, aka trips)	52+5 dupes+5 blanks=62

Equipment needs:

GPS unit with pre-loaded sample stations
Boat
Anchor
Depth sounder
Cooler with ice
Sample bottles (for calcium and chloride)
Tape/labels and sharpies/markers
Field data sheet
Data sonde/multi-probe
Secchi disk
Kemmerer bottle
Calibrated chain with clip